



BAR V RANCH ACQUISITION

2004 CONSERVATION BOND PROGRAM



PIMA COUNTY BOARD OF SUPERVISORS
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Bar V Ranch and Pima County's 2004 Conservation Bond Program

Background

Pima County has the opportunity to preserve the Bar V Ranch property, which includes over 1,763 acres of fee land and 12,674 acres of state grazing leases (Figure 1). The Ranch includes a significant portion of Davidson Canyon - a rare confluence of desert and riparian habitat that contains a stretch of perennial water and provides habitat for numerous vulnerable species. The majority of the property is located east of Sonoita Highway 83 and south of Interstate 10. The northern most fee parcel connects to the Cienega Creek Natural Preserve, under Interstate 10, and state lease land extends north of I-10 bordering the Cienega Preserve.

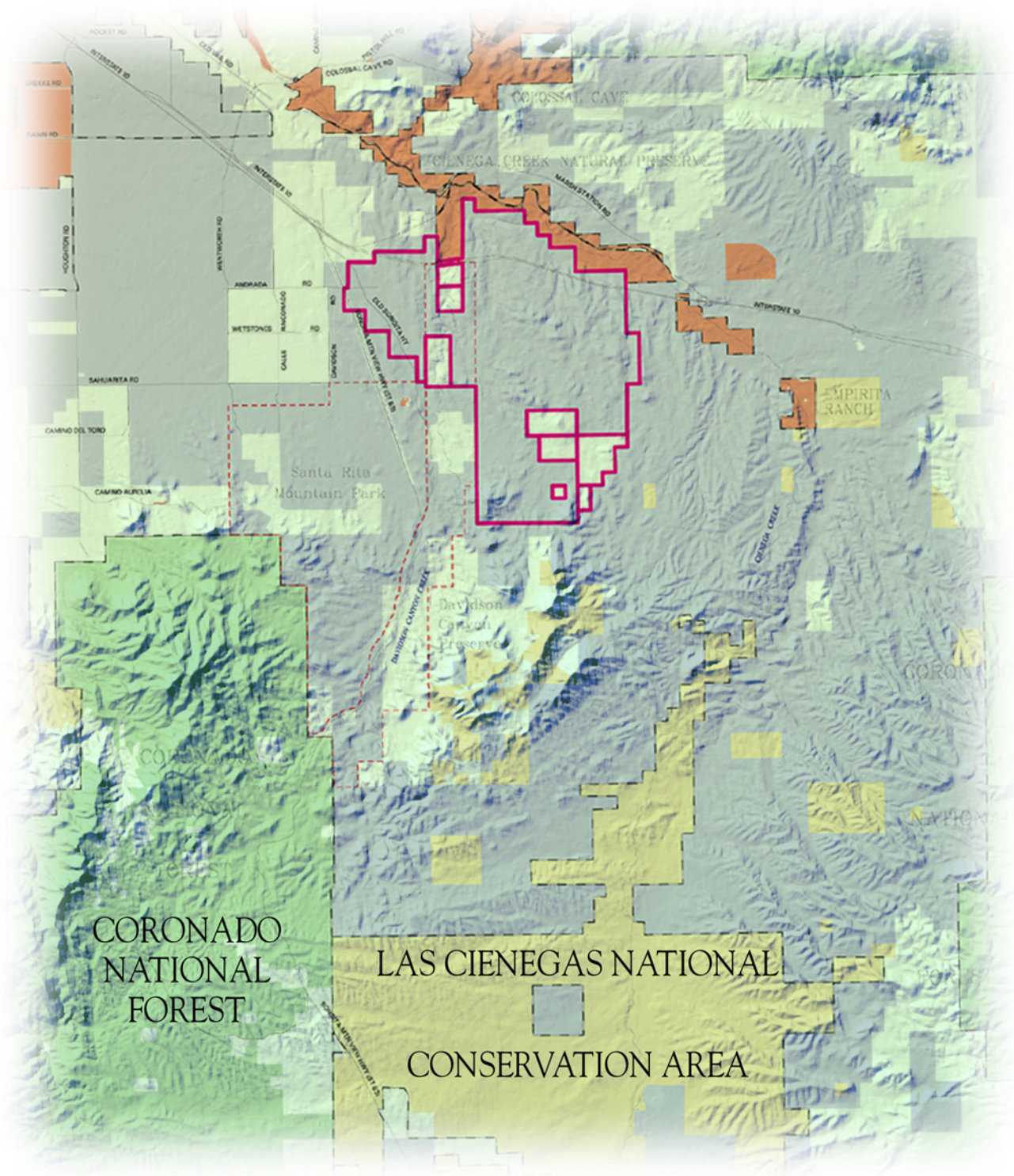
Acquisition of the Bar V Ranch will preserve an important wildlife corridor under Interstate 10, rare riparian habitat for numerous vulnerable species, drainage that flows into the Cienega Creek and the Tucson Basin, areas with high archeological potential, a planned equestrian route for the Arizona Trail, and unique scenic views of Davidson Canyon and the Empire Mountains. Because this property is unique in so many ways, it has been identified in numerous planning documents and conservation lists, from the proposed Davidson Canyon Natural Preserve - a preserve proposed in the Preliminary Mountain Parks Element of the Sonoran Desert Conservation Plan to protect the high-quality riparian habitat of Davidson Canyon and ultimately provide a biological linkage and wildlife corridor between the Rincon and the Santa Rita Mountains - to one of seven "Endangered Cultural Landscapes" recently identified nation-wide by the Cultural Landscape Foundation (Appendix A).

The Ranch is currently proposed for acquisition by Pima County as part of the 2004 Conservation Bond Program, with the main objective of protecting and preserving the natural biological resources of the property. The Ranch was identified in the 2004 Bond Ordinance as high priority private and state land within the Habitat Protection Priorities. The Habitat Protection Priorities are one of four categories of open space bond projects and were developed to guide implementation of the County's Multi-Species Habitat Conservation Plan.

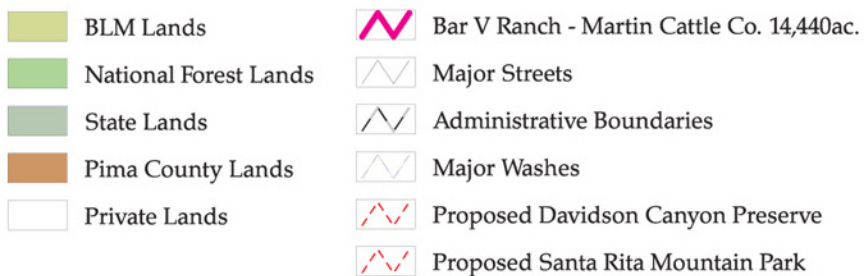
As part of the proposed acquisition agreement (Appendix B) the current owner of the property, Martin Cattle Company, will continue to manage the majority of the Ranch for Pima County. It is likely that the County will manage the 300 acres of fee lands, which adjoin the County's Cienega Creek Natural Preserve and contain perennial water, as an extension of the County's preserve. The State Trust lands north of the freeway are part of the Cienega Creek Natural Preserve, as established by the Pima County Flood Control District Board of Directors in 1986-FC10. The lands within the Preserve are subject to the management goals and policies adopted by the Board on March 3, 1987 (Appendix C).

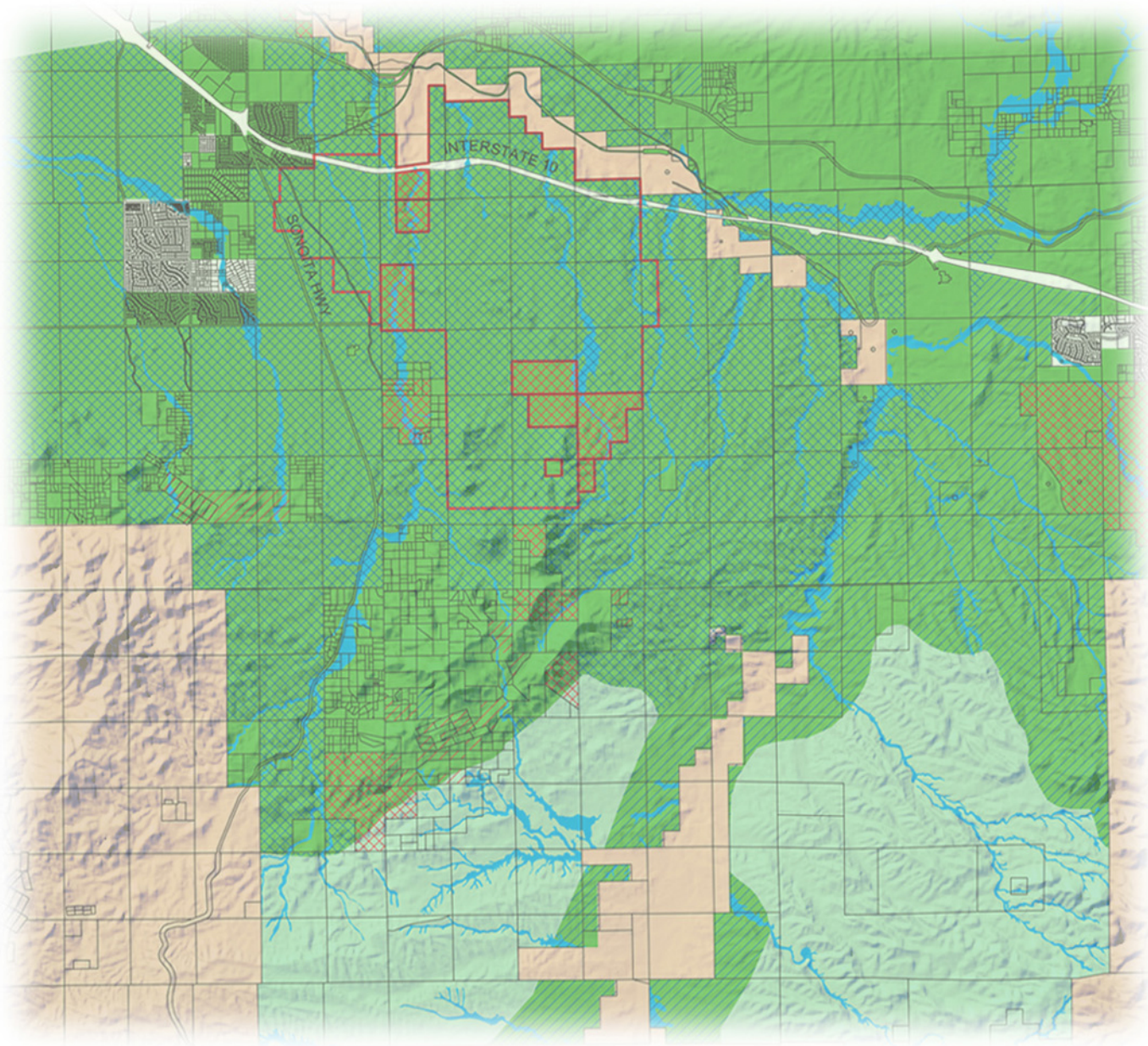
Biological Resources

The proposed acquisition includes one of the most important wildlife movement corridors in the area, and is part of a critical landscape linkage designated in the Sonoran Desert Conservation Plan. Interstate Highway 10 is a barrier to the movement of many terrestrial



BAR V RANCH LAND OWNERSHIP





BAR V RANCH

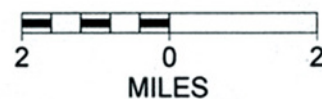
HABITAT PROTECTION PRIORITIES

- Highest Priority Private
- Secondary Priority Private
- Highest Priority State
- Secondary Priority State

CLS DESCRIPTIONS

- AREAS OUTSIDE CONSERVATION LANDS SYSTEM
- AGRICULTURE INHOLDINGS WITHIN CONSERVATION LANDS SYSTEM
- BIOLOGICAL CORE MANAGEMENT AREAS
- IMPORTANT RIPARIAN AREAS
- MULTIPLE USE MANAGEMENT AREAS

- BAR V RANCH
- EXISTING PRESERVES
- PARCEL LINES



animals, except at rare locations like Davidson Canyon, where the freeway passes high overhead on a bridge (Figure 3).

The Ranch, fee and lease land, is designated as Biological Core and Important Riparian as part of the County's Conservation Lands System, and is accorded a high priority for acquisition as part of the 2004 Conservation Bond Program (Figure 2). The Biological Core area that



Davidson Canyon is located in consists of a large area of undeveloped land interposed between the Rincon, Whetstone, Empire and Santa Rita Mountains. One of the Bar V Ranch fee parcels adjoins the Cienega Creek Natural Preserve, as do several State Trust land grazing lease parcels. The proximity of the land to areas already administered by Pima County will benefit all involved and further protect the plant and animal habitats found there.

Figure 3. I-10 bridge over Davison Canyon, looking north. February 2004 photograph by EPG.

As part of the Sonoran Desert Conservation Plan planning process, a list of 55 Priority Vulnerable Species (PVS) were identified. Bar V Ranch provides potential habitat for at least 34 of the 55 priority vulnerable species. The Ranch also includes category 1 Priority Conservation Areas for the Lowland Leopard frog, Bell's Vireo, Swainson's Hawk, Abert's Towhee, Lesser Long-nosed Bat, Pale Townsend's Bat and Needle-spined Cactus. Category 1 Priority Conservation Areas are areas that species experts determined must be included in the reserve system for a particular species.

The Ranch land along Davidson Canyon contains reaches of perennial and intermittent stream flow (Figure 4). Davidson Canyon originates on the slopes of the Santa Rita and Empire Mountains, so it receives both snowmelt and precipitation.

Populations of Longfin Dace and the Lowland Leopard frog, both Priority Vulnerable Species, have been observed in the streamflow portion of Davidson Canyon contained within the fee acres of Bar V Ranch. The shallow groundwater conditions support wetland and riparian vegetation, including the rare yew-leafed willow. The yew-leafed willow is one of the unique plants which occurs in Davidson Canyon but does not occur within the existing Cienega Creek Natural Preserve. Appendix D contains a flora list for Davidson Canyon. The uplands are a stronghold for the Needle-spined Cactus, also a Priority Vulnerable Species. There are many known locations for this species in the area surrounding the acquisition, and it most certainly occurs on the site.



Figure 4. Near the spring on fee land south of I-10, looking south. November 2004 photograph by Gloria Browne.

A biological assessment of the 603 acres along Davidson Canyon was prepared by EPG, dated February 2004. According to the report, there's a high likelihood that at least six other Priority Vulnerable Species are present on the property, including California Leaf-nosed Bat, Lesser Long-nosed Bat, Pale Townsend's Big-eared Bat, Abert's Towhee, Bell's Vireo, and Swainson's Hawk. Special elements include Interior Southwest Riparian Forest and Mesquite.



Figure 5. View from middle parcel looking northeast into Davidson Canyon. November 2004 photograph by Gloria Browne.

The vegetation and tilted sedimentary rocks which are exposed in the canyon contribute greatly to the scenic character of the land (Figure 5). This is one of the few places where one can see both the juniper and the saguaro cactus growing in close proximity, another factor which contributes to the visual attractiveness of the landscape.

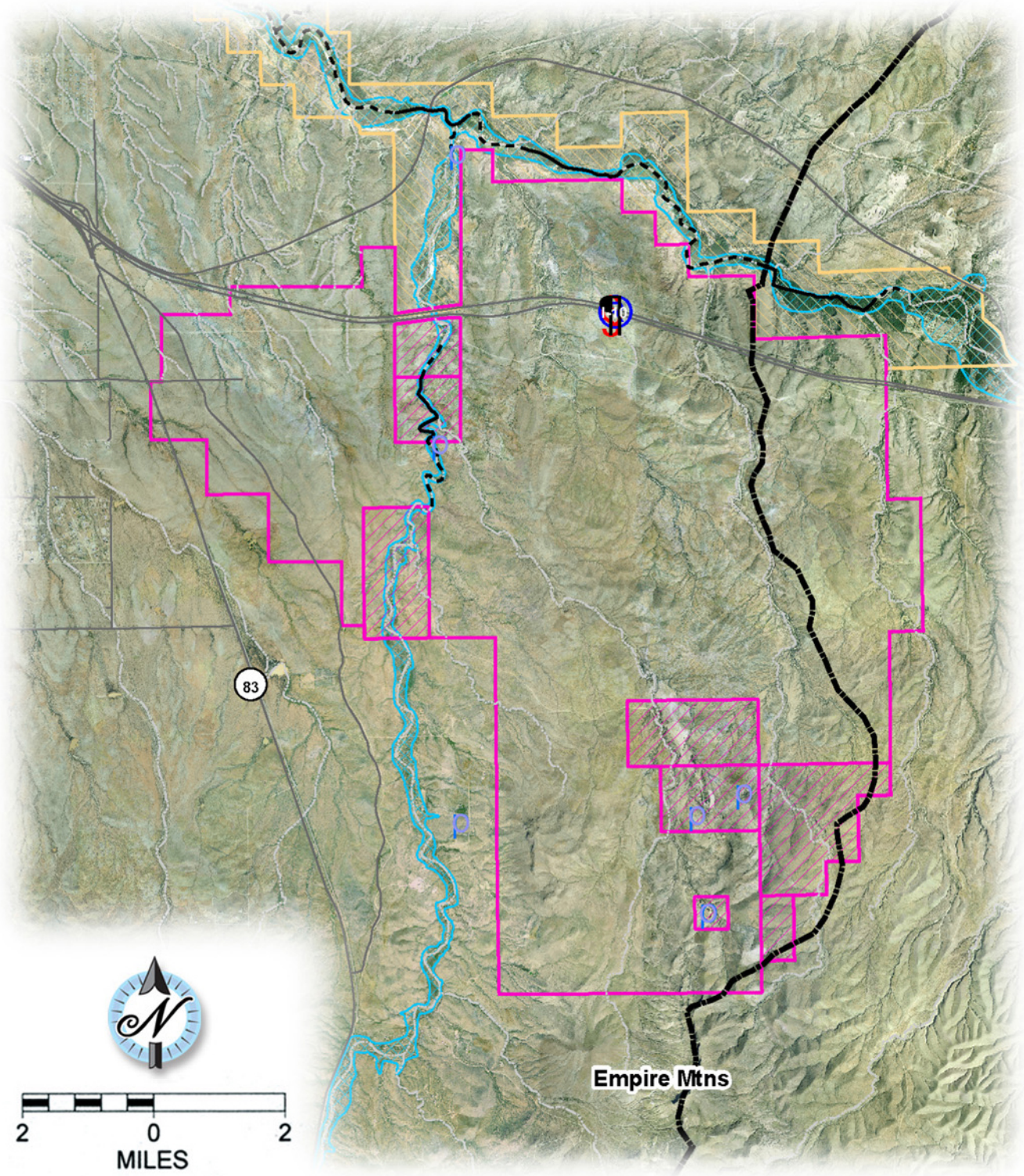
Access to the Ranch is currently available through a grandfathered entrance on the south side of the interstate (just east of mile post #284) and a series of perpetual easements obtained across state land from the Old Sonoita Highway. At present, access is being abused by off-road vehicle enthusiasts, who are damaging the riparian area (Figure 6).



Figure 6. Near the spring on fee land south of I-10 (southern parcel). 2003 photographs by Dennis Caldwell.

Water Source for Cienega Creek and Tucson Basin

Davidson Canyon is an important source of water for Cienega Creek, even when dry, because water continues to flow underground at shallow depths. A study by Pima Association of Governments (PAG) in 2003 showed that 8% to 24% of the flow in Cienega Creek at the Marsh Station Road bridge originated in Davidson Canyon. The relative contribution from Davidson Canyon was found to be highest in months when flows in Cienega Creek were at their lowest. PAG's 2003 report recommended that future plans for protecting water quality in Cienega Creek include efforts to maintain the quality of flows in Davidson Canyon, because of its significant contribution to perennial streamflow in the Cienega Creek preserve. The report noted that perennial and intermittent flows in Davidson Canyon are lower in total dissolved solids than Cienega Creek's flows, thus helping to dilute the water in Cienega Creek. Acquisition of the Bar V Ranch parcels would be a key part of an effort to protect water quality in Davidson Canyon.



BAR V RANCH



Figure 7

In addition to protecting the water quality of Davidson Canyon, this acquisition would be beneficial from a water quantity standpoint. The Bar V Ranch parcels are in an area without access to renewable water supplies such as Central Arizona Project (CAP) water, suggesting that if the area were to be subdivided in the future, water would be supplied by local groundwater pumping. Future pumping in the area could diminish flows in Davidson Canyon, which would in turn diminish flows in Cienega Creek.

Arizona's Groundwater Management Act does not protect Davidson Canyon or Cienega Creek from the effects of groundwater pumping. Although lower Davidson Canyon and much of the Cienega Creek Natural Preserve are just within the Tucson Active Management Area (TAMA) boundaries, the upper reaches of Cienega Creek, including part of the preserve, are outside the TAMA (Figure 7). Regulation of groundwater development outside AMAs is minimal.

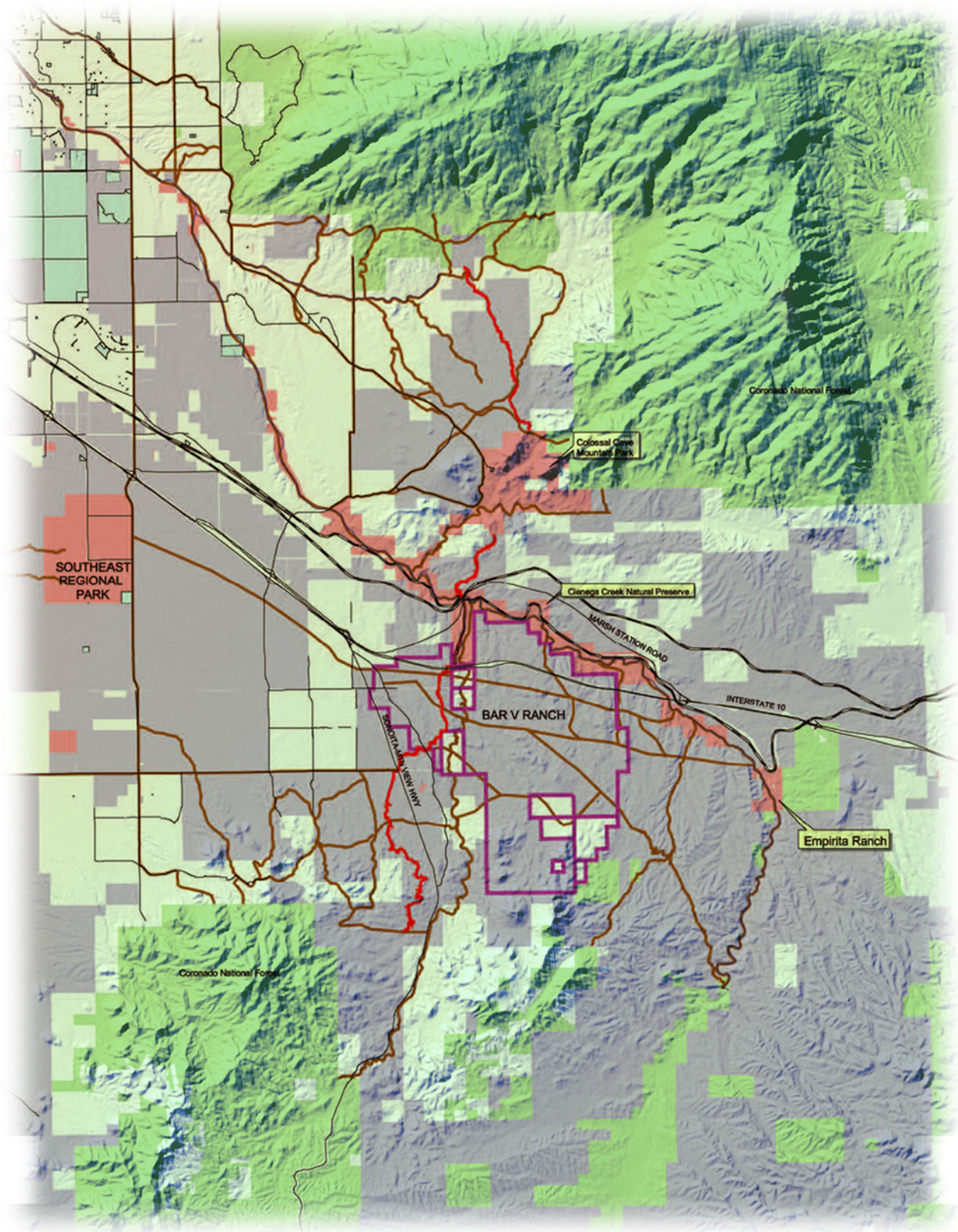
Even within the TAMA the groundwater code does not prevent streamflow in riparian areas from being diminished by groundwater pumping. Although new subdivisions in the TAMA are required to comply with the Assured Water Supply Rules, these rules do not prohibit water table declines in local areas. Groundwater can be withdrawn legally at a given location in the TAMA, as long as it is replenished somewhere in the TAMA. This replenishment obligation can be met through recharging water far away, where it would not replenish the local aquifer, via membership in the Central Arizona Groundwater Replenishment District (CAGRDR).

The State's Unique Water rules do not provide any water quantity protections either. Cienega Creek is designated as a Unique Water, but this designation only protects the creek's water quality; it does not provide any protection from the potential impacts of any future groundwater pumping along the creek or its tributaries. Given the lack of protection from State laws, Pima County's acquisition of the Bar V Ranch parcels for habitat preservation would provide the greatest assurance that groundwater pumping along Davidson Canyon is minimized in the future.

Trails

The Davidson Canyon Trail is a favorite with hikers and equestrians. Davidson Canyon is listed as Trail #56 on the Eastern Pima County Trail System Master Plan, and crosses all of the Bar V Ranch private parcels encompassing the Canyon, north to south (Figure 8). The Trails Master Plan, which was first adopted by the Pima County Board of Supervisors in 1989, is a formal county ordinance (#1996-75).

In addition to the Davidson Canyon Trail, Trail #278, the Gas Line Trail, crosses the northernmost private Bar V Ranch parcel (east to west) encompassing Davidson Canyon, and is an important regional connector trail. Also, the upper leg of Trail #248, the Davidson Loop Trail, crosses the middle private parcel in Davidson Canyon. The southernmost private parcel encompassing the Canyon is crossed by Trail #244, the Andrada Ranch Link, and the lower leg of Trail #248, the Davidson Canyon Trail. These trails are particularly popular with equestrians and bicyclists.



BAR V RANCH and DAVIDSON CANYON Trail Alignments

- Proposed Arizona Trail Alignment
- Acquired Arizona Trail Right-of-Way
- Designated Trail



Two key portions of the Arizona Trail cross the subject ranch property. The Arizona Trail is an 800-mile long cross-state shared-use recreational trail that begins at the Utah border and ends at the Mexican border, and will eventually become a National Scenic Trail. The main corridor of the Arizona Trail leaves Pima County's Cienega Creek Natural Preserve at its southwestern corner just north of I-10, enters the ranch (State lease land) and passes under I-10 in an existing concrete culvert. South of I-10, the trail takes a southwesterly course across the ranch (State lease land), eventually crossing Highway 83 at its intersection with Sahaurita Road. In addition, a proposed "bypass" alignment for equestrian users of the Arizona Trail who prefer not to utilize the existing culvert under I-10 crosses the northernmost private parcel. The equestrian portion of the trail will cross under I-10 in Davidson Canyon and enter the property immediately south of the Interstate, and connect with the main corridor of the Arizona Trail on the western boundary of the northernmost private property.

Cultural Resources Assessment of the Bar V Ranch

The Bar V Ranch lands are located within a broad corridor following the Cienega Creek that historically has been used for transportation linking the Santa Cruz River Valley on the west



with the San Pedro River Valley to the east. Historic trails known to have followed this corridor include the route taken by the Mormon Battalion between 1846 and 1847, and the Butterfield Overland Mail Company stage line operated between 1858 and 1861. The Butterfield stage line maintained a stage stop on the Cienega Creek located just to the north and west of the state trust grazing lands associated with the Bar V Ranch. Later, the Wells Fargo Company ran their pony express along portions of the old Butterfield Trail. In 1880 the Southern Pacific Railroad laid their line following the Cienega Creek, and a second line was built by the El Paso & Southwestern Railroad in 1912. During the 1920s, US 80 followed this corridor providing a paved road surface for vehicular traffic. In the 1950s, the nation began constructing the interstate highway system, which passed through Pima County south of Cienega Creek. Today, Interstate 10 is the modern descendant of this earlier highway.

Figure 9. A number of sites with mortars in bedrock have been found in Cienega Creek. Similar sites could be found on the Bar V Ranch.

Research conducted for the Sonoran Desert Conservation Plan reveals that the Cienega Creek Valley is also rich in archaeological resources. Archaeologists from the University of Arizona began to investigate the Cienega Creek area beginning in the 1920s focusing on sites occupied by the Hohokam people, the ceramic bearing culture that settled the region between A.D. 750 and A.D. 1450. During the 1950s, survey and testing along the Creek identified pre-ceramic (Archaic) sites buried under the deep alluvium covering the Cienega Creek flood plain. In 1982, a number of these ancient sites were excavated to investigate the origins of agriculture in prehistory. More recently, beginning in 1995, a doctoral student at the University of Arizona surveyed thousands of acres along Cienega Creek and several of its

tributaries. As a result, hundreds of new sites have been reported representing human occupation along the creek between approximately 6000 B.C. to the present day. The Cienega Creek Valley is recognized as one of the most archaeologically important areas in Pima County.

Records indicate that very little of the Bar V Ranch lands have been surveyed for cultural resources. Surveys are currently underway as part of the requirements for the ADOT Scenic grant and general due diligence for the proposed acquisition. Even so, all three private land parcels along Davidson Canyon are in an area characterized as having a high sensitivity for archaeological sites because of their association with Davidson Canyon.

There are two known archaeological sites within state grazing lease lands north of I-10. Parcel 306010270 has within its limits site AZ BB:14:161 (ASM), the "Davidson Canyon site," a medium size village site that was occupied repeatedly between A.D. 200 and A.D. 1500. Site AZ BB:14:553 (ASM), a Hohokam site occupied between A.D. 1300 and A.D. 1500, is reported on a portion of parcel 306010250. Portions of parcels 306010270, 306050070, 306060040, and 30601025A fall within the "Cienega Creek Archaeological Site Complex" defined during research conducted for the Sonoran Desert Conservation Plan. Site complexes are large areas that contain multiple archaeological resources that are collectively considered to be of extraordinary value. All four of these parcels are considered to have a high sensitivity for archaeological sites.

An old woodcutter's house does exist on the southern private parcel along Davidson Canyon (figure 10). This structure will be assessed after the potential purchase of the property.



Figure 10. Woodcutter's house on property. November 2004 photograph by Gloria Browne.

Development Pressures, Zoning and Planned Land Use

The Bar V Ranch is at risk of sale for purposes other than conservation. Per the attached acquisition agreement, Martin Cattle Company is offering to sell the Bar V Ranch property to Pima County. If Pima County does not purchase the property, the property will continue to be marketed for development.

Zoning:

All eight parcels are zoned Rural Homestead (RH) - a low-density, rural residential zone with a maximum density of one residence per ± 4.1 acres. No applications to rezone these parcels have been submitted. The properties were previously designated "General Rural" (GR) until 1985 when the GR zone was discontinued. With one exception, all of the properties abutting the subject parcels are also zoned RH. The property to the north, across Interstate 10 from Parcel 002A, is zoned Institutional Reserve (IR). Currently, there are no active or pending rezoning applications in the area surrounding the subject parcels. Across Interstate 10 to the north is the southern boundary of the Vail Posta Quemada Plan, a zoning plan adopted in 1959. Based on a recent Board of Supervisors decision, the zoning plan will expire in 2005 (or 2006 subject to certain conditions). The zoning plan had proposed residential, commercial, and industrial conditional zoning subject to submittal of an acceptable subdivision plat.

The Gateway Overlay Zone (Ch. 18.78 - Pima County Zoning Code) extends eastward overlaying Interstate 10 until approximately 1.25 miles west of Parcel 002A. The overlay zone is intended to protect the scenic quality of entry points to metropolitan Tucson and nearby public preserves. Interstate 10 is also a designated "Scenic Route" according to the Major Streets and Scenic Routes map.

Parcels 306-07-001A and 002A are within the Buffer Overlay Zone (Ch. 18.67 - Pima County Zoning Code) that requires specific development standards for properties near public preserves.

Planned Land Use:

The area surrounding and including the subject parcels is designated Low Intensity Rural (LIR) and Resource Transition (RT) - planned land use designations each with a maximum density of one residence per ± 3.3 acres. The Resource Transition designation is intended for private land with environmentally sensitive characteristics that include wildlife corridors, natural washes, floodplains, peaks and ridges, buffers to public preserves, and other environmentally sensitive areas.

The three northernmost parcels (306-07-002a, 306-15-001a & 010a) are subject to a special area policy - "S-19 Trail Access, Rural Equestrian Routes, National Historic Trail" which is intended to protect equestrian trails. The planned equestrian trail, running north/south, bisects all three parcels.

Transportation Enhancement Funds

In April 2004, the State Transportation Board unanimously approved Transportation Enhancement funding in the amount of \$500,000 towards the acquisition of the 600 acres of Bar V Ranch fee land along Davidson Canyon. This funding was approved under the category of Scenic Easement/Acquisition to preserve view sheds along State-designated scenic roads and highways.

During the application process for these Enhancement funds, Arizona Game and Fish Department, Arizona Trail Association, Coalition for Sonoran Desert Protection, Sky Island Alliance, the Tucson Herpetological Society, the Sonoran Institute, and the Arizona Native

Plant Society submitted letters of support for Pima County's acquisition of these 600 acres. These letters are attached in Appendix E.

Conclusion

This is a one-time opportunity to preserve an area that provides countless benefits. From landscape connectivity for wildlife, to an significant water source for Cienega Creek and the Tucson Basin, to important riparian habitat crucial for the survival of several vulnerable species, to stunning scenic views, the preservation of Bar V Ranch is exceptionally important acquisition. In the context of the County's effort to attain an incidental take permit under Section 10 of the Endangered Species Act via a Multi-Species Habitat Conservation Plan, this acquisition will prevent loss of habitat for numerous priority vulnerable species.

The proposed funding source for the purchase of the Bar V Ranch is 2004 Bond funds and the Transportation Enhancement funds awarded by ADOT. The Conservation Acquisition Commission, a Commission appointed to oversee the spending of the 2004 Question 1 Bond funds, will review this acquisition and make a recommendation to the Pima County Board of Supervisors, who will make a final decision on whether to preserve this property.